

Remarks

Applicant notes that Claims 6 and 7 as published in WO 99/12735, from which the present case entered the USPTO, have an improper dependency. Because it is not evident from the records Applicant's attorney has that the dependency was corrected, Claims 6 and 7 are amended in this response to correct.

Art Rejection - Obviousness

5. At present, Claims 1 – 4 and 6 – 7 are rejected under 35 U.S.C. §103(a) as being unpatentable over Parks et al. in view of DuPont (DuPont Packaging). Reconsideration of this rejection is requested in view of amendments and following remarks.

As noted in the current office action, one embodiment of the sandwich structure of Parks et al. is set forth at Column 3, lines 15 – 20. It is a six-layer sandwich structure (other embodiments have even more layers – see Figure 1, for example, with eight layers). Starting at the top of the structure in the cited embodiment, the first layer is a polyolefin; the second layer is paperboard; the third layer is a tie layer; the fourth layer is amorphous polyamide; the fifth layer is a second tie layer; and the sixth layer is a polyolefin (polyolefin/paperboard/tie/amorphous nylon/tie/polyolefin).

There is no basis cited for selecting only part of the Parks et al. laminate. To select only the second, third and fourth layers of the above embodiment would cause Parks et al. to fail in its essential purpose. The structure of Parks et al. is designed to provide an effective container for products such as fruit and citrus juice, beverages and the like as well as non-liquid dry products having good oxygen barrier properties while at the same time protecting packaged products from loss of essential oils, flavor and vitamins (page 2, lines 1 – 4). ALL layers in Parks et al. are required, not just three of them. Only impermissible 20/20 hindsight would suggest such a selection.

But, even if one skilled in the art were in some way lead to select three of the six or more layers required by Parks et al., there is no teaching or

suggestion of the claimed water vapor barrier limits in combination with the claimed oxygen barrier limits.

Note first of all as more fully discussed in earlier responses, that at most there appears that there may be a slight overlap in oxygen barrier. Even here, however, the oxygen barrier property cited in the present Office Action (page 7, lines 35 – 45) is with respect to an eight-layer laminate (Layer 1. LDPE/Layer 2. Board/ Layer 3. LDPE/ Layer 4. Bynel/ Layer 5. Selar PA/ Layer 6. Bynel/ Layer 7. LDPE/ Layer 8. LDPE). Applicant respectfully requests the Examiner to provide a basis more than mere conjecture for the conclusion that one skilled in the art taking the art as a whole would select non-contiguous layers 2, 4, and 5 as noted above from structure 5 (the structure having the cited oxygen barrier) and then conclude that the oxygen barrier for the subset of layers would suggest the limits in the current claims taken as a whole.

Even assuming that there is a slight oxygen barrier overlap, Applicant traverses the argument that DuPont (DuPont Packaging) fills the water vapor barrier void in Parks et al. DuPont (DuPont Packaging) does, as pointed out, teach that Selar®PA 3426 has moisture-barrier properties at 95% RH, 23°C, of $2.0 \text{ g}/100 \text{ in}^2 \cdot \text{d} \cdot \text{atm}$. Applicant sees no basis, however, to jump to the conclusion that the laminate of Parks et al meets the currently claimed water-vapor-barrier limits. Applicant respectfully requests the Examiner to provide a basis other than mere conjecture for the conclusion reached in the Office Action.

It should be noted that while Parks et al. fails to disclose currently claimed water vapor barrier limits, that the primary purpose of Parks et al. is for a product useful for containing liquids. As such, it must by definition have a low water transmission. As pointed out in the Background of the Invention in the current application, the water vapor transmission of the material in Parks et al. is less than $10 \text{ g}/\text{m}^2 \cdot \text{d}$, not the 100 to $1000 \text{ g}/\text{m}^2 \cdot \text{d}$ of the presently claimed invention.

Further, the Parks et al. reference pertains to “paperboard laminate” for applications such as “fruit and citrus juice” cartons. Note that the paperboard is defined as “milk carton stock” for example at page 4, lines 32 –

33. Basis Weight for the paperboard is stated to be about 150 to 300 pounds/ream, preferably 260 pounds/ream, at page 4, line 33. As can be seen from the attached conversion chart based on TAPPI Standard T410, to convert from Ream Weight to Grammage, the Ream Weight is multiplied by 4.881 for paperboard (and possibly again by 1.042 if the given trade size for paperboard is 480 sheets, see footnote 2). Using these factors, the grammage for paperboard taught in Parks et al. (480 sheet numbers in parentheses) are 732.15 (762.9) to 1464.3 (1525.8), preferably 1269.06 (1322.36) grams/square meter. Applicant notes that at page 4, line 13, that Parks et al. use 3000 square feet as ream size, but uses it in the context of the weight of polymers extruded onto the paperboard. Parks et al. does not state that Ream Weight should be based on 3000 square feet. It simply is not clear whether the 1000 square feet based on TAPPI Standard should be used or whether 3000 square feet used to calculate polymer coating weight should be used in the calculation. If the 3000 square feet was intended, the above numbers would be divided by 3. Grammage would then be 244.05 (254.3) to 488.1 (508.6), preferably 423.02 (440.79) grams/square meter.

Applicant maintains that the Ream Weights in Parks et al. teach away from the 20 to 400 grams/square meter claimed, or at least do not suggest such limits. No basis for selecting the low end of the most generous interpretation of Parks et al. is provided, particularly in light of the preferred grammage based on 3000 square feet of Parks et al. being 423.02 (440.79) grams/square meter. Note also that Example 3 in the present case uses a 200 grams/square meter board, which is clearly outside even the most generous interpretation of Parks et al. New claim 8 is limited to paper having a weight between 20 and 200 grams/square meter.

Thus, even if there were a basis for selecting three out of six or more layers required by Parks et al., and the DuPont (DuPont Packaging) reference cured the moisture barrier limitation not taught in Parks et al., the current claims and particularly new claim 8 are neither taught nor suggested. There must be motivation in the art taken as a whole to modify the references in a way that suggests all the limitations of the claims taken as a whole. That motivation is not seen here.

Thus, in view of the above, these obviousness rejections cannot stand as a matter of law and should be withdrawn.

6. At present, Claim 5 is rejected under 35 U.S.C. §103(a) as being unpatentable over Parks et al. in view of DuPont (DuPont Packaging) as applied to Claims 1 – 4 and 6 – 7 and further in view of Zabrocki. Reconsideration of this rejection is requested.

Applicant repeats the above arguments for Claims 1 – 4 and 6 – 7 with respect to this rejection. Zabrocki does not cure any of the deficiencies not cured with respect to Claims 1 – 4 and 6 – 7. For these reasons, the rejection of Claim 5 cannot stand.

Thus, this obviousness rejection cannot stand as a matter of law and should be withdrawn.

Conclusion

In view of the above remarks and the enclosed amendments, it is felt that all claims are now in condition for allowance and such action is requested. Should the Examiner believe that an interview or other action in Applicants' behalf would expedite prosecution of the application, the Examiner is urged to contact Applicant's attorney by telephone at (302) 992-3219.

Respectfully submitted,



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